

REMARKS

This Amendment is in response to the Office Action dated January 2, 2008 ("OA"). In the Office Action, claims 1, 2, 5-17 and 20-28 were rejected under 35 USC §103. By this Amendment, claims 1, 5, 6, 9, 12 and 15 are amended, claims 29-31 are added and claims 16, 17, 20-22 and 25-28 are canceled. Claims 1, 2, 5-15, 23, 24 and 29-31 are believed allowable, with claim 1 being an independent claim.

Applicants are not conceding that the subject matter encompassed by claims 16, 17, 20-22 and 25-28, prior to this Amendment, is not patentable. Claims 16, 17, 20-22 and 25-28 were canceled in this Amendment solely to facilitate expeditious prosecution of the present application. Applicants respectfully reserve the right to pursue claims, including the subject matter encompassed by claims 16, 17, 20-22 and 25-28, as presented prior to this Amendment, and additional claims in one or more continuing applications.

CLAIM REJECTIONS UNDER 35 USC §103:

Claims 1, 6, 9, 10, 12, 16, 21 and 22 were rejected under 35 U.S.C. § 103 as unpatentable over U.S. Patent No. 6,084,684 issued to Stubler et al. ("Stubler") in view of U.S. Patent No. 6,043,819 issued to LeBrun et al. ("LeBrun"). OA, pg. 2.

Claims 2, 5, 17 and 20 were rejected under 35 U.S.C. § 103 as unpatentable over Stubler in view of LeBrun and further in view of U.S. Patent No. 6,718,063 issued to Lennon et al. ("Lennon"). OA, pg. 6.

Claims 7, 8, 11 and 13-15 were rejected under 35 U.S.C. § 103 as unpatentable over Stubler in view of LeBrun and further in view of U.S. Patent No. 5,963,670 issued to Lipson et al. ("Lipson"). OA, pg. 8.

Claims 23, 25 and 27 were rejected under 35 U.S.C. § 103 as unpatentable over Stubler in view of LeBrun and further in view of U.S. Patent No. 6,697,799 issued to Neal et al. ("Neal"). OA, pg. 11.

Claims 24, 26 and 28 were rejected under 35 U.S.C. § 103 as unpatentable over Stubler in view of LeBrun and further in view of Neal and further in view of U.S. Patent No. 6,816,847 issued to Toyama ("Toyama"). OA, pg. 13.

A *prima facie* case for obviousness can only be made if the combined reference documents teach or suggest all the claim limitations. MPEP 2143. Additionally, to establish a *prima facie* case of obviousness, there must be

some clear articulation of the reason(s) why the claimed invention would have been obvious. *Id.*

Claim 1

Claim 1 has been amended to include the limitation, "the at least one criterion including a quantitative measure of confidence in a label." Support for this limitation is found in at least page 7, lines 1-2 (paragraph [0028]) of the specification, which states, "The quantitative measure of ambiguity or confidence in a label is a criterion that governs the selection process."

The Applicants respectfully submit that neither Stubler nor LeBrun teaches or suggests at least one criterion including a quantitative measure of confidence in a label as required by claim 1.

Claim 1, as currently amended recites, in part, "actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected, the at least one criterion including a quantitative measure of confidence in a label." For brevity, the claim limitation introduced by this Amendment and underlined above is hereinafter referred to as the Second Limitation. Likewise, the remainder of the quoted limitation of claim 1 is referred to as the First Limitation.

It is evident from antecedent basis that the at least one criterion in the Second Limitation must be the same as the at least one criterion as in the First Limitation. Therefore, claim 1 as currently amended requires that the at least one criterion on which the selection of the examples of multimedia content is based includes a quantitative measure of confidence in a label.

The Examiner concedes that "Stubler does not expressly disclose *actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected.*" OA, pg. 3. It is noted that the limitation italicized by the Examiner is the First Limitation.

However, the Examiner alleges that LeBrun teaches the First Limitation. OA, pg. 4. In support of this position, the Examiner cites column 3, lines

49-51; column 10, lines 4-8; column 18, lines 16-20; and column 21, lines 20-24. *Id.* The Examiner further states,

LeBrun teaches a database of graphic document images which are automatically identified (*annotated*) by an image character reader. Images not automatically identified (*annotated*) by the image character reader are queued for manual identification/classification by human operators looking sequentially at a screen or queue of images and keying in the identification.)). OA, pg. 4.

As previously noted, claim 1 as currently amended requires that the at least one criterion on which the selection of the examples of multimedia content is based includes a quantitative measure of confidence in a label. Failure to automatically identify an image is clearly not equivalent to at least one criterion including a quantitative measure of confidence in a label. Therefore, queueing images not automatically identified by an image character reader for manual identification by human operators, as taught by LeBrun, cannot teach the at least one criterion required by claim 1.

Additionally, in regards to claim 23, the Examiner cites column 11, lines 1-47 of Neal and alleges,

. . . Neal teaches a classification confidence score which determines the level of confidence in which a category is likely to be correct during classification. If the item has a high confidence, then it can be classified directly. If the confidence level is low, then the results can be sent to the user interface for review and selection by the operator. OA, pg. 12.

The Examiner further alleges,

Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to combine Stubler and LeBrun with Neal for the benefit of comparing confidence scores of items for all selected classifications and classifying the items based on confidence score comparison (col. 2, lines 36-42). OA, pg. 12.

However, as conceded by the Examiner, Stubler does not expressly disclose the First Limitation. Therefore, the Applicants respectfully submit that even assuming *arguendo* that Neal teaches at least one criterion including a quantitative measure of confidence in a label, the combination of Stubler and Neal cannot teach or suggest the limitation of claim 1 quoted above.

Moreover, LeBrun does not express any appreciation for the possibility that degrees of confidence in the identification of a graphic document image may exist. Moreover, if the apparatus disclosed by LeBrun fails to identify

a document, the document has no classification. In this case, a confidence in classification is not relevant because no classification was made. Therefore, the Applicants respectfully submit one of ordinary skill in the art at the time of the invention would not be motivated to modify the automatic identification of graphic document images disclosed by LeBrun with the classification confidence score disclosed by Neal.

For at least these reasons, claim 1 is believed allowable. The Applicants respectfully request reconsideration and allowance of claim 1.

Claims 2, 5-15 and 23

Claims 2, 5-15 and 23 are dependent on and further limit claim 1. Since claim 1 is believed allowable, claims 2, 5-15 and 23 are believed allowable for at least the same reasons as claim 1.

Claim 24

Claim 24 is dependent on claim 1 and recites, "The method of claim 1, wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space." It is emphasized that claim 24 requires inverse proportionality between the confidence level and the distance of a new feature of the selected examples from a separating hyperplane.

A *prima facie* case for obviousness can only be made if the combined reference documents teach or suggest all the claim limitations. MPEP 2143.

It follows that the combination of Stubler, LeBrun, Neal and Toyama cannot teach claim 24 unless at least one of Stubler, LeBrun, Neal and Toyama discloses inverse proportionality between the confidence level and the distance of a new feature of the selected examples from a separating hyperplane.

The Examiner concedes that "Stubler in view of LeBrun does not expressly disclose *wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space.*" OA, pg. 13.

Moreover, in discussing Neal, the Examiner fails to allege that Neal teaches or suggests any form of inverse proportionality. OA, pg. 13-14.

In discussing Toyama, the Examiner alleges,

Using the broadest interpretation, the Examiner concludes at the time of the invention, one of ordinary skill of the art could modify Neal's teaching with Toyama [sic] teaching of enhancing the learned qualifier in such a way that wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space. OA, pg. 14.

The Examiner does not provide any evidence that Toyama teaches or suggests any form of inverse proportionality. OA, pg. 14.

All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The Applicants respectfully submit the "Broadest Reasonable Interpretation analysis" must be directed to interpreting the meaning of the language included in the claims. See MPEP 2111. Clearly, no reasonable interpretation of the claim language can completely disregard the presence of entire words recited by the claim. Claim 24 recites, "the confidence level being inversely proportional to a distance" Thus, any reasonable interpretation of claim 24 must account for the fact that claim 24 recites the words, "inverse proportional."

Accordingly, a combination of alleged prior art references cannot teach claim 24 unless the combination includes a teaching or suggestion which is equivalent to a reasonable interpretation of the words, "inverse proportional." The Examiner has not stated, and it is not apparent, how Stubler, LeBrun, Neal or Toyama teach or suggest inverse proportionality. Therefore, the Applicants respectfully submit that even using a Broadest Reasonable Interpretation analysis, the combination of Stubler, LeBrun, Neal or Toyama fails to teach inverse proportionality as required by claim 24.

Moreover, in responding to the Applicants' arguments in the Amendment filed October 2, 2007 ("Amendment 10/2/2007") in response to the Office Action of July 2, 2007, the Examiner states,

First of all, the Examiner made no mention of *the aesthetic score disclosed by Toyama is **inherently** inversely proportional to a distance of a new feature.* The Examiner rejection shows obviousness as to why

one of ordinary skill in the art would combine the cited prior art.
OA, pg. 21.

The Examiner appears to refer to the following passage of the Amendment filed October 2, 2007:

As previously noted, claim 24 requires inverse proportionality between the confidence level and the distance of a new feature of the selected examples from a separating hyperplane. The Applicants respectfully submit that Toyama fails to teach or suggest that the aesthetic score is calculated based on inverse proportionality. The Examiner has not explained, and it is not apparent, why the aesthetic score disclosed by Toyama is inherently inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space. Amendment 10/2/2007, pg. 17.

It is clear from the cited passage of the Amendment that the Applicants did not assert that the Examiner expressly stated that an aesthetic score disclosed by Toyama is inherently inversely proportional to a distance of a new feature. Instead, the reasons why the aesthetic score is not inherently inversely proportional to a distance are discussed in order to demonstrate that the aesthetic score fails to teach the inverse proportionality required by claim 24 even under principles of inherency.

Moreover, the Examiner states, "The Examiner rejection shows obviousness as to why one of ordinary skill in the art would combine the cited prior art." OA, pg. 21.

The Applicants respectfully submit that a showing of obviousness as to why one of ordinary skill in the art would combine the cited alleged prior art is, by itself, insufficient to sustain an obviousness rejection under 35 USC §103. A *prima facie* case for obviousness can only be made if the combined reference documents teach or suggest all the claim limitations. MPEP 2143.

Even assuming *arguendo* that the rejection shows obviousness as to why one would combine the alleged prior art cited by the Examiner, it is additionally necessary to show that the alleged prior art teaches or suggests all the claim limitations, including the limitation requiring inverse proportionality, in order to sustain a rejection under 35 U.S.C. § 103. For the reasons noted above, the combination of cited alleged prior art advanced by the Examiner fails to teach or suggest inverse proportionality.

Additionally, the Examiner alleges,

Further, in response to applicant's argument, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. OA, pg. 21.

According to MPEP 2112.02, "During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art." MPEP 2112.02 (emphasis added). Thus, the Examiner relies on a rule of claim construction for interpreting a claim's preamble. Such claim interpretation is clearly in error when applied to claim 24.

Claim 24 is an independent claim and does not contain a preamble. Thus, claim 24 does not recite intended use in a preamble. Claim 24 states, "The method of claim 1, wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space." Nothing in this claim is expressed as an intended use.

The Examiner further alleges,

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). OA, pg. 21-22.

The Appellants respectfully submit that the Examiner does not "takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made" in combining the references. As discussed in the Amendment filed October 2, 2007, Neal teaches away from combining its teachings with Toyama. The Examiner's statement does not respond to this argument.

As stated in the October 2, 2007 Amendment:

Neal teaches that "[t]he third element is to classify the new items by comparing the words and symbols associated with each item to those in the knowledge database." Neal, col. 2, ln. 64-67. Neal then clarifies that "[i]n the present invention, a word, token, symbol or descriptive term can be considered as one or more characters used to represent a concept in a language or a specialized subject matter." Neal, col. 3, ln. 6-9. Thus, it is evident that Neal teaches that a search operates on textual data as opposed to the image itself. Furthermore, the confidence score (or confidence level) disclosed by Neal is derived from the result of a search.

Toyama teaches that when training the classifier, ". . . the aspects that the classifier can use may include such image features as: the presence and distribution of various colors; the various geometrical quantities and qualities of segmented parts of an image, such as position, orientation, moments, etc.; coefficients of various transformations of image regions, such as Fourier analysis, Discrete Cosine Transform (DCT), wavelet analysis, etc.; and, higher-level representations of the image. These features are represented numerically as a 'feature vector,' which can be thought of as a series of numeric values that represent the image with respect to its image features." Toyama, col. 5, ln. 51-61. Toyama then clarifies that when analyzing a particular image, "[t]he classifier uses the same feature selection it applied against the set of training images to determine the aesthetic score for the image" Toyama, col. 7, ln. 9-11. Thus, it is evident that Toyama teaches classifying an image based on graphical properties of an image and numeric representations thereof. It is noted that Toyama teaches that an image may contain text. However, Toyama is devoid of any teaching that images are classified based on the contents or semantic meaning of any text contained therein.

Thus, the confidence score of Neal is derived from a search which operates on textual data. By contrast, Toyama teaches classifying an image based on graphical and numeric data. Thus, the search of Neal and the classification of Toyama are based on disparate data types. Those skilled in the art will appreciate that different types of data (e.g., numeric data, textual data and graphical data) require processing according to substantially different methods and algorithms. Therefore, the Applicants respectfully submit that it would not be obvious to amend the classification score disclosed by Neal with the Support Vector Machine (SVM) classifier disclosed by Toyama. Amendment 10/2/2007, pg. 17-18.

One of ordinary skill in the art at the time of the claimed invention would know that the search of Neal and the classification of Toyama are based on disparate data types. One of ordinary skill in the art at the time of the claimed invention would also know that different types of data (e.g., numeric data, textual data and graphical data) require processing according to substantially different methods and algorithms. The latter fact teaches away from amending the classification score disclosed by Neal with the Support Vector Machine (SVM) classifier disclosed by Toyama. Thus, the Applicants respectfully submit that it would not be obvious to one of ordinary skill in

the art at the time of the claimed invention to combine Neal with Toyama in the manner advanced by the Examiner.

For at least these reasons, claim 24 is believed allowable. The Applicants respectfully request reconsideration and allowance of claim 24.

NEW CLAIMS:

Claims 29-31

By this Amendment, claims 29, 30 and 31 are added.

Claim 15, as presented in the Amendment filed October 2, 2007, recited, "The method of claim 13, wherein the models are based on nearest neighbor voting or variants, parametric or statistical models, expert systems, rule-based systems, or hybrid techniques."

Claim 29 recites, "The method of claim 13, wherein the models are based on expert systems." Thus, claim 29 recites subject matter present in claim 15 as previously presented.

Claim 30 recites, "The method of claim 13, wherein the models are based on rule-based systems." Thus, claim 30 recites subject matter present in claim 15 as previously presented.

Claim 31 recites, "The method of claim 13, wherein the models are based on hybrid techniques." Thus, claim 31 recites subject matter present in claim 15 as previously presented.

Claims 29-31 are dependent on and further limit claim 1. Since claim 1 is believed allowable, as discussed above, claims 29-31 are believed allowable for at least the same reasons as claim 1.

CONCLUSION

In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

No fee is believed due with this Amendment, however, should such a fee be required please charge Deposit Account 50-0510 the required fee. Should

any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

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Respectfully submitted,

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